(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 7.July 2005 (07.07.2005)

(10) International Publication Number WO 2005/060360 A3

(51) International Patent Classification7: H04L 27/26

H04Q 7/36,

(21) International Application Number:

PCT/KR2004/003408

(22) International Filing Date:

22 December 2004 (22.12.2004)

(25) Filing Language:

English

(26). Publication Language:

English

(30) Priority Data: 10-2003-0095017

> 22 December 2003 (22.12.2003) KR

10-2004-0035542

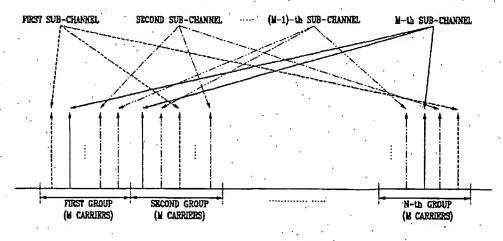
19 May 2004 (19.05.2004)

(71) Applicants (for all designated States except US): Electronics and Telecommunications Research Institute [KR/KR]; 161, Gajcong-dong, Yuseong-gu, Daejeon 305-350 (KR). SAMSUNG ELECTRONICS CO., LTD. [KR/KR]; 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, 442-742 (KR). SK TELECOM CO., LTD [KR/KR]; 99, Scorin-dong, Jongro-gu, Seoul 110-728 (KR). KT Corporation [KR/KR]; 206, Jungia-dong, Bundang-gu, Seongnam-city, Kyeonggi-do, 463-711 (KR). KTFreetel Co., Ltd. [KR/KR]; 890-20, Daechi-dong, Gangnam-gu, Seoul 135-280 (KR). HANARO TELE-COM., INC. [KR/KR]; Shindongah Fire & Marine Insurance Building 43, Taepyeongno2-Ga, Jung-Gu, Seoul 100-733 (KR).

- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CHANG. Sung-Cheol [KR/KR]; Expo Apt. 106-408, Jeonmin-dong, Yuscong-gu, Daejeon-city 305-390 (KR). CHA, Jae-Sun [KR/KR]; Youlmaemaeul Apt. 403-801, Jijok-dong, Yuseong-gu, Daejeon-city 360-090 (KR). KIM, Kyung-Soo [KR/KR]; Hanul Apt. 109-1702, Shinscong-dong, Yuseong-gu, Daejeon-city 305-345 (KR). AHN, Jee-Hwan [KR/KR]; 149-7, Sinseong-dong, Yuseong-gu, Daejeon-city 305-720 (KR).
- (74) Agent: YOU ME PATENT AND LAW FIRM; Seolim Bldg., 649-10, Yoksam-dong, Kangnam-ku, Seoul 135-080
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FL GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,

[Continued on next page]

(54) Title: METHOD FOR CONSTITUTING LAYERED CELL IN OFDMA SYSTEM



(57) Abstract: Disclosed is a method for constituting a layered cell, which is for constituting a cell in an OFDMA (Orthogonal Frequency Division Multiple Access) mobile communication system. The method includes: (a) dividing L carriers having orthogonal to dividing L carriers having orthogonal to dividing the Access of the content into N groups each having the M sub-channels; (c) grouping the N groups by onality into M sub-channels; (b) dividing the carriers into N groups each having the M sub-channels; (c) grouping the N groups by an arbitrary integer into K classes; and (d) constituting a plurality of layered cells corresponding to the K classes. According to the present invention, the conception of the independent classes is introduced for a plurality of carriers to facilitate the use of the carriers to a system requiring an independent wireless area, allowing design of sectors and cells at a single frequency.

PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GII, GM, KIE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:
 15 September 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.